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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/903,609 | 07/13/2001 | Takayuki Ogasahara | 1272.C0467 | 2209 |
| 5514 | 7590 | 06/30/2005 | EXAMINER | |
| FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112 | | | SINGH, SATWANT K | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2626 | |

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------------|------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/903,609 | OGASAHARA ET AL. | |
| | Examiner Satwant K. Singh | Art Unit 2626 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 13 July 2001.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-33 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) 1-28 is/are allowed.
 6) Claim(s) 29-32 is/are rejected.
 7) Claim(s) 33 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 13 July 2001 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 12/01.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

KPW

1. Claims 29-~~32~~³² are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 29-32 are drawn to functional descriptive material not claimed as residing on a computer readable medium. Appropriate correction is required.

Allowable Subject Matter

2. Claims 1-28 are allowed.

1. The following is an examiner's statement of reasons for allowance: Claims 1, 12, and 29 teach similar subject matter as the prior art references of Gotoh et al. (US 6,027,196), Couwenhoven et al. (US 6,312,101), Shimada (US 6,336,704), Kakutani (US 6,382,757), Couwenhoven et al. (US 6,435,657), and Thornberry et al (US 6,824,98)

The prior art teaches an image processor equipped with deciding means for deciding formation amounts of a low-density dot and of a high-density dot for a unit area of a printing medium.

The prior art fails to teach an image processor equipped with deciding means, wherein, said deciding means decides the formation amounts of the low-density dot and of the high-density dot in accordance with said density level in such a way that, as said density level rises, the formation amount of said low-density dot is gradually increased up to a first peak amount and, after reaching the first peak amount, gradually decreased, and in a range of density levels higher than a predetermined density level at

which the low-density dot is formed in the specified amount, as said density level rises, the formation amount of said high-density dot is gradually increased up to a second peak amount smaller than said first peak amount.

2. It follows that dependent claims 2-11, 13-28 and 30-32 are allowable for depending on an allowable base claim.
3. Claim 33 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gotoh et al. (US 6,027,196) discloses a recording method and apparatus for gradation recording with light and dark colored inks,

Couwenhoven et al. (US 6,312,101) discloses a method of printing digital images using multiple colorants having the same color.

Shimada (US 6,336,704) discloses a technique utilizing two different inks that are mixed with each other to express an achromatic color, in order to reduce the degree of granularity while decreasing the total quantity of inks.

Kakutani (US 6,382,757) discloses a printer that provides two inks of different densities with respect to at least one hue and may create dots of different ink quantities.

Couwenhoven et al. (US 6,435,657) discloses a method for multicolorant printing of digital images using reduced colorant amounts.

Thornberry et al (US 6,824,98) discloses inkjet in sets with combinations of light dye load and dark dye load.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satwant K. Singh whose telephone number is (571) 272-7468. The examiner can normally be reached on Monday thru Friday 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A. Williams can be reached on (571) 272-7471. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Satwant Singh

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Satwant K. Singh
Examiner
Art Unit 2626

KA Williams
KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER